



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,134	05/26/2005	Karl-Heinz Wilzer	P/37-182	1953
2352 7590 04/27/2009 OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403				
EXAMINER				
LSTVOYB, GREGORY				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
04/27/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/509,134

Applicant(s)

WILZER, KARL-HEINZ

Examiner

GREGORY LISTVOYB

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/17/2008 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8-13, 15 and 17 rejected under 35 U.S.C. 102(b) as being anticipated by Wiltzer (US 6107449) (sited in the previous Office Action).

Wiltzer discloses a method for the continuous production of polyamide, starting with a material comprised of a salt of hexamethylenediamine with adipic acid (AH salt), water and lactam (see Claim 1, meeting the corresponding limitations of claims 8 and 12), which together form a prepolymer.

The method the method comprising:

a first stage wherein above atmospheric pressure is applied, in a first reactor having a first gas space, at temperatures between 180°C and 280°C (see Column 1, line 40), to the starting material, producing evaporated water containing reaction components, and, after passing the starting material through the first stage, feeding the prepolymer obtained due to the passage to at least one further stage comprising a second reactor (see column 1, line 65) having a second gas space and removing or expelling the evaporated water from the second gas space (see column 2, line 5), where connecting the first gas space with pressure control to the second gas space (see column 2, line 55), such that water evaporated in the first stage, with reaction components contained therein, is passed into the at least one further stage, said water being expelled only in the at least one further stage (see claim 1).

Regarding claims 9, 13 and 17, Wiltzer discloses a reflux column, which separates monomers and water. Monomers return to the reactor, whereas water wasted with nitrogen stream (see Working Example 3).

In reference to claims 10 and 15, Wiltzer teaches 60-80% of AH-salt (see Claim 3) and particularly 80% AH salt (see Example 1).

Regarding claim 11, reflux column 19 (see Figure 1) operates at atmospheric pressure at 90°C (see Examples 2-3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Wiltzer (necessitated by amendment).

Wiltzer discloses a method for the continuous production of copolyamide and polyamide (see discussion above).

Wiltzer teaches that water and reaction products are separated with reflux column, with following recycling of caprolactam back into a reactor.

Wiltzer does not teach that the temperature of the upper end of the column is less than 120C.

It is known that boiling point of water at atmospheric pressure is 100C. The other constituents of a vapor phase have much higher boiling point. Therefore, in order to effectively remove water, the temperature of the upper end of the column should be slightly above 100C (i.e. 105-110C). Higher temperature is unnecessary, since it leads to an additional energy consumption.

It would have been obvious to a person of ordinary skills of the art at the time the invention was made to set temperature of upper end of the reflux, column at 105-110C • to effectively remove water with efficient energy consumption.

Regarding Claim 14, Wiltzer does not teach that the amount of AH-salt is no more than 30%.

However, he teaches that the amount of comonomer caprolactam is within the range of 1-99% (see Column 3, line 55). It would have been obvious to a person of ordinary skills in the art that at high content of caprolactam monomer the amount of comonomer AH-salt is low (i.e. lower than 30%) in order to keep constant total monomer concentration in the reaction mixture.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thornton*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 8-17 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of U.S. Patent No. 6107449. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of the above claims are within the scope of limitations of the U.S. Patent No. 6107449.

In particular, Claim 1 of the above patent claims a method for the continuous production of polyamides or copolyamides from the same ingredients as ones in the Application. Process takes place at high pressure within the same temperature range. Water is driven out with inert gas.

Claim 3 of the above patent claims the amount of AH-salt, which overlaps with the corresponding range of AH salt content in the Application examined.

Claims 8-17 directed to an invention not patentably distinct from claim 1 and 3 of commonly assigned U.S. Patent No. 6107449. Specifically, Claim 1 of the above patent claims a method for the continuous production of polyamides or copolyamides from the same ingredients as ones in the Application. Process takes place at high pressure within the same temperature range. Water is driven out with inert gas.

Claim 3 of the above patent claims the amount of AH-salt, which overlaps with the corresponding range of AH salt content in the Application examined.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned U.S. Patent No. 6107449, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Response to Arguments

Applicant's arguments filed on 1/8/2009 have been fully considered but they are not persuasive.

Applicant argues that Wiltzer does not teach or suggest to feed evaporated water containing reaction components from the first stage to a second reactor having a second gas space which is located in the "at least one further stage" of the method, as now presently recited in applicant's independent claims 8 and 12.

Examiner disagrees. Wiltzer teaches that the prepolymer conveyed via control valve to the drying section, water still present in excess. This water is driven off from the melt (see Example 1). Therefore:

1. water vapors present in excess in the second stage of the reaction;
2. water is evaporated in the second stage of the reaction.

Applicant argues that important area of distinction (between Application and Wiltzer) rests on the fact that there is, for example, no teaching or even a suggestion in Wiltzer of connecting the gas spaces of two reactors in two separate states of the method with one another.

Examiner disagrees. Drying section (i.e. second reactor) has an excessive water vapors (see Example 1), which came from the first reactor.

Applicant submits that the evaporated water mentioned in the claims refers to the water evaporating into the respective gas spaces, and not the water evaporated in the melt dryers.

However, claim language allows to interpret melt drying procedure as one of the process steps. In particular, claim 8 claims the following:

"...and, after passing the starting material through the first stage, feeding the prepolymer obtained due to said passage to at least one further stage comprising a second reactor having a second gas space and removing or expelling the evaporated water from said second gas space..."

It is clear that the second reactor can be represented by a dryer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY LISTVOYB whose telephone number is (571)272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James J. Seidleck/
Supervisory Patent Examiner, Art Unit 1796
GL